

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method, comprising:
providing a first wireless communications link;
providing a second wireless communications link;
wherein the first wireless communications link is a UWB transmission link for transmitting payload data, and the second wireless communications link is a different type of wireless communications link for communicating error control data for the UWB transmission link without communicating payload data.
2. (Original) The method according to claim 1, wherein the error control data is Automatic Repeat Request (ARQ) data.
3. (Original) The method according to claim 2, wherein the ARQ data includes Acknowledgement (ACK) data identifying a packet type, block number, sequence numbers and number of sequence numbers.
4. (Original) The method according to claim 1, wherein the UWB communications link continuously transmits payload data.

5. (Original) The method according to claim 1, wherein the UWB data transmission is divided into at least one block comprising:

(a) at least one data field including a sequence number, actual data and error correction field; and

(b) a header portion including information identifying a number of data fields in the block, information identifying the length of the data fields, information identifying the length of the last data field, a block number, a continuation bit and an error correction field.

6. (Original) The method according to claim 5 wherein UWB transmissions is adaptable according to link quality of the UWB transmission link by changing a length of the data fields in the transmission of subsequent blocks according to an evaluation of a current data block.

7. (Original) The method according to claim 1, wherein the UWB communications link is unidirectional.

8. (Original) The method according to claim 1, further comprising performing error control processing for the UWB communications link according to the error control data received via the second wireless communications link.

9. (Original) The method according to claim 1, wherein the second wireless communications link communicates data at significantly lower data transfer rates than the UWB transmission link.

10. (Original) The method according to claim 1, wherein the second wireless communications link is a short-range communications link.

11. (Original) The method according to claim 10, wherein the second wireless short-range communications link is a Bluetooth (BT) communications link.

12. (Original) The method according to claim 1, wherein the UWB communications link provides for communications between two or more devices.

13. (Original) The method according to claim 1, wherein the providing of the first wireless communications link includes establishing the first wireless communications link, and the providing of the second wireless communications link includes establishing the second wireless communications link.

14. (Currently Amended) A system for improving data throughput when performing error control in Ultra Wideband (UWB) communications, comprising:

first communications module for performing wireless communications via a first communications link;

second communications module for performing wireless communications via a second communications link;

wherein the first wireless communications link for transmitting payload data is a UWB transmission link for communicating data at very high data transfer rates, and the second wireless communications link is a different type of wireless communications link for

communicating error control data for the UWB transmission link without communicating payload data.

15. (Original) The system according to claim 14, wherein the error control data is Automatic Repeat Request (ARQ) data.

16. (Original) The system according to claim 15, wherein the ARQ data includes Acknowledgement (ACK) data identifying a packet type, block number, sequence numbers and number of sequence numbers.

17. (Original) The system according to claim 14, wherein the UWB communications link continuously transmits payload data.

18. (Original) The system according to claim 14, wherein the UWB communications link is unidirectional.

19. (Original) The system according to claim 14, wherein the first communications module performing communications across the UWB link performs error control processing for the UWB communications link according to the error control data received via the second wireless communications link.

20. (Original) The system according to claim 14, wherein the second communication module performing communications across the second wireless communications link

communicates data at significantly lower data transfer rates than the first communications module performing communications across the UWB link.

21. (Original) The system according to claim 14, wherein the second wireless communications link is a short-range communications link.

22. (Original) The system according to claim 21, wherein the second wireless short-range communications link is a Bluetooth (BT) communications link.

23. (Original) The system according to claim 14, wherein the UWB communications link provides for communications between two or more devices.

24. (Original) The method according to claim 14, wherein at least one of the first and second communications modules includes a link manager sub-module for establishing the first and second wireless communications links.

25. (Currently Amended) A system for improving data throughput when performing error control in Ultra Wideband (UWB) communications, comprising:

means for providing a first wireless communications link;

means for providing a second wireless communications link;

wherein the first wireless communications link for transmitting payload data is a UWB transmission link for communicating data at very high data transfer rates, and the second wireless communications link is a different type of wireless communications link for

communicating error control data for the UWB transmission link without communicating payload data.

26. (Currently Amended) A computer-readable medium encoded with processing instructions for implementing a method of improving data throughput when performing error control in Ultra Wideband (UWB) communications, performed by a wireless communications device, the method comprising:

providing a first wireless communications link;

providing a second wireless communications link;

wherein the first communications link is a UWB transmission link for communicating payload data at very high data transfer rates, and the second wireless communications link is a different type of wireless communications link for communicating error control data for the UWB transmission link without communicating payload data.

27. (Currently Amended) A method of improving data throughput when performing error control in a mobile environment, comprising:

providing a first wireless communications link;

providing a second wireless communications link; and

arranging the first wireless communications link to communicate payload data; and

arranging the second wireless communications link to communicate error control data of the first wireless communications link without communicating payload data,

wherein the first wireless communications link enables communication at a significantly higher data rate than the second wireless communications link.

28. (Original) The method according to claim 27, wherein the second wireless communications link frees the first wireless communications link from communicating bi-directional error control data overhead.

29. (Original) The method according to claim 27, wherein the error control data is Automatic Repeat Request (ARQ) data.

30. (Original) The method according to claim 29, wherein the ARQ data includes Acknowledgement (ACK) data identifying a packet type, block number, sequence numbers and number of sequence numbers.

31. (Original) The method according to claim 27, wherein the first wireless communications link is a UWB communications link.

32. (Previously Presented). The method according to claim 1, wherein a payload transmission across the UWB transmission link is arranged based on the error control data received across the second wireless communication link.

33. (Previously Presented). The system according to claim 14, wherein a payload transmission across the UWB transmission link is arranged based on the error control data received across the second wireless communication link.

34. (Previously Presented). The system according to claim 25, wherein a payload transmission across the UWB transmission link is arranged based on the error control data received across the second wireless communication link.

35. (Previously Presented). The computer-readable medium according to claim 26, wherein a payload transmission across the UWB transmission link is arranged based on the error control data received across the second wireless communication link.

36. (Previously Presented). The method according to claim 27, wherein a payload transmission across the UWB transmission link is arranged based on the error control data received across the second wireless communication link.

37. (Currently Amended) An apparatus comprising:
a first communications module for performing wireless communications via a first communications link; and
a second communications module for performing wireless communications via a second communications link,
wherein the first wireless communications link for communicating payload data is a UWB transmission link, and the second wireless communications link is a different type of wireless communications link for communicating error control data for the UWB transmission link without communicating payload data.

38. (Previously Presented) The apparatus according to claim 37, wherein the first communications module transmits payload data.

39. (Previously Presented) The apparatus according to claim 37, wherein the first communications module receives payload data.

40. (Previously Presented) The apparatus according to claim 37, wherein the second communications module includes an interface for providing the error control data.

41. (Previously Presented) The apparatus according to claim 37, wherein the second communications module includes an interface for obtaining the error control data.

42. (Currently Amended) An apparatus comprising:
a first communications module for transmitting payload transmission via a first communications link; and
a second communications module for receiving error control data for the first communications link via a second communications link which does not communicate payload data,

wherein the payload transmission across the first communications link is arranged based on the error control data received across the second wireless communication link.

43. (Currently Amended) An apparatus comprising:

a first communications module for receiving payload transmission via a first communications link; and

a second communications module for transmitting error control data for the first communications link via a second communications link without transmitting payload data,

wherein the payload transmission across the first communications link is arranged based on the error control data received across the second wireless communication link.

44. (New) A method according to claim 1, wherein the error control data comprises indications whether fragmented portions of the transmitted payload data needs to be retransmitted or not.

45 (New) A system according to claim 14, wherein the error control data comprises indications whether fragmented portions of the transmitted payload data needs to be retransmitted or not.

46 (New) A system according to claim 25, wherein the error control data comprises indications whether fragmented portions of the transmitted payload data needs to be retransmitted or not.

47 (New) A computer-readable medium according to claim 26, wherein the error control data comprises indications whether fragmented portions of the transmitted payload data needs to be retransmitted or not.

48. (New) A method according to claim 27, wherein the error control data comprises indications whether fragmented portions of the transmitted payload data needs to be retransmitted or not.

49. (New) An apparatus according to claim 37, wherein the error control data comprises indications whether fragmented portions of the transmitted payload data needs to be retransmitted or not.

50. (New) An apparatus according to claim 42, wherein the error control data comprises indications whether fragmented portions of the transmitted payload data needs to be retransmitted or not.

51. (New) An apparatus according to claim 43, wherein the error control data comprises indications whether fragmented portions of the transmitted payload data needs to be retransmitted or not.